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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/530,783  | 09/28/2005  | Richard P. Anderson  | ITP 11A.1           | 9391             |
| 2387 7590 02/02/2009<br>Olson & Cepuritis, LTD.<br>20 NORTH WACKER DRIVE<br>36TH FLOOR<br>CHICAGO, IL 60606 |             |                      |                     |                  |
| EXAMINER  |             |                      |                     |                  |
| FOGARTY, CAITLIN ANNE   |             |                      |                     |                  |
| ART UNIT  |             | PAPER NUMBER         |                     |                  |
| 1793  |             |                      |                     |                  |
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/530,783

**Applicant(s)**

ANDERSON ET AL.

**Examiner**

CAITLIN FOGARTY

**Art Unit**

1793

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 September 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 April 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/5508)
- Paper No(s)/Mail Date \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Status of Claims***

1. Claims 1 – 25 are pending where claims 1 and 18 have been amended. Claims 26 and 27 have been cancelled.

### ***Status of Previous Rejections***

2. The 35 U.S.C. 103(a) rejection of claims 1-9, 13, and 18 as being unpatentable over Armstrong et al. (US 5,958,106) has been maintained.

The 35 U.S.C. 103(a) rejection of claims 10-12, 14-17, and 19-25 as being unpatentable over Armstrong et al. (US 5,985,106) in view of Okudaira et al. (US 4,902,341) has been maintained.

The nonstatutory obviousness-type double patenting rejection of claims 1-8, 10, 18-23, and 26-27 as being unpatentable over claims 1-5, 7-11, 13-16, 19-20, and 24 of U.S. Patent No. 5,779,761 has been maintained. (The rejection of claims 26 and 27 is no longer applicable since they have been cancelled.)

The nonstatutory obviousness-type double patenting rejection of claims 1-3, 6, 18, 21, 23, 26, and 27 as being unpatentable over claims 1 and 28 of copending Application No. 10/530,775 has been maintained. (The rejection of claims 26 and 27 is no longer applicable since they have been cancelled.)

### ***Claim Rejections - 35 USC § 103***

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claims 1 – 9, 13, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Armstrong et al. US 5,958,106 (hereafter US '106).

US '106 is applied to claims 1-9, 13, and 18 as set forth in the June 19, 2008 Office action.

In regards to the amended features of claims 1 and 18, col. 3 line 56-col. 4 line 17 of US '106 discloses that the products leaving the reaction zone are cooled in the surrounding liquid. The surrounding liquid includes the liquid phase of a reducing metal of an alkali metal or alkaline earth metal, a sodium stream, a chloride (halide) vapor, and an inert gas. Therefore, a chloride (halide) vapor and an additional cooling gas are used to cool the reaction products. US '106 differs from instant claims 1 and 18 because it does not specifically disclose that an excess of the chloride (halide) vapor and cooling gas is used to cool the reaction products. However, the amount of chloride (halide) vapor is a result effective variable since the amount of halide vapor is a reactant and therefore the amount effects the completion of the reaction. It would have been obvious to one of ordinary skill in the art to optimize the amount of chloride (halide) vapor through routine experimentation in order to control the reaction kinetics (see col. 5 lines 58-65 of US '106). Furthermore, it is noted that Applicant has not defined the "excess of the halide vapor." Therefore, an "excess" can be interpreted as 0.001% more than the stoichiometric amount required, for example which would not be patentably distinct from the prior art in the absence of criticality evidence.

5. Claims 10 – 12, 14 – 17, and 19 – 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Armstrong et al. US 5,958,106 (hereafter US '106) as applied

to claims 1, 2, and 18 above, and further in view of Okudaira et al. US 4,902,341 (hereafter US '641).

US '106 in view of US '641 is applied to claims 10-12, 14-17, and 19-25 as set forth in the June 19, 2008 Office action.

### ***Double Patenting***

6. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

7. Claims 1 – 8, 10, and 18 – 23 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 – 5, 7 – 11, 13 – 16, 19 – 20, and 24 of U.S. Patent No. 5,779,761 for the reasons discussed in the December 11, 2007 Office action.

8. Claims 1 – 3, 6, 18, 21, and 23 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1

and 28 of copending Application No. 10/530,775 for the reasons discussed in the December 11, 2007 Office action.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

***Response to Arguments***

9. Applicant's arguments filed September 16, 2008 have been fully considered but they are not persuasive.

Arguments are summarized as follows:

- a. The present invention utilizes an excess of halide vapor or an external cooling gas to cool the reaction products below the sintering temperature, not an excess of the reducing metal as disclosed by US '106. There is nothing in US '106 that would have led one of ordinary skill in the art to reasonably expect that the reaction products of the process could be successfully cooled by a gas and still maintain the reaction products in a particulate, unsintered state.
- b. There is no explanation in the record as to why or how one of ordinary skill in the art would have been motivated to combine the disparate teachings of US '341 and US '106. Furthermore, there is no teaching or suggestion in the US '341 patent, the US '106 patent, or any combination thereof that an excess of the halide vapor or another cooling gas could have been successfully used to maintain the reaction products of the reduction reaction in an unsintered state.
- c. The nonstatutory obviousness-type double patenting rejection of claims 1-8, 10 and 18-23 as being unpatentable over claims 1-5, 7-11, 13-16, 19-20, and

24 of U.S. Patent No. 5,779,761 cannot stand and should be withdrawn. There is no teaching or suggestion in this patent that the reaction products of the metal halide reduction could be successfully cooled using an excess of the halide vapor or another cooling gas.

d. In regards to the nonstatutory obviousness-type double patenting rejection of claims 1-3, 6, 18, 21, and 23 as being unpatentable over claims 1 and 28 of copending Application No. 10/530,775, the copending application teaches away from the subject invention and cannot function as a provisional obviousness-type reference.

Examiner's responses are as follows:

- a. See 35 U.S.C. 103(a) rejection above in regards to the amended features of claims 1 and 18. Furthermore, it would be expected that the reaction products of the process could be successfully cooled by a gas and still maintain the reaction products in a particulate, unsintered state since col. 4 lines 6-17 of US '106 teach that the temperature of the surrounding liquid that cools the reaction products is maintained below the sintering temperature of the produced metal.
- b. The 9/16/2008 Office action clearly states on p. 7 that it would have been obvious to one of ordinary skill in the art to incorporate the method step of cooling the reaction products with an inert gas as taught in US '341 with the method of US '106 because both methods include exothermic reactions between a halide of an elemental material and a reducing metal that require cooling the final product. The cooling step of US '341 is an alternate method for cooling the

reaction products of US '106 that achieves the same results. Furthermore, one of ordinary skill in the art would know that the reaction products of the process of US '106 in view of US '341 could be successfully cooled by a gas and still maintain the reaction products in a particulate, unsintered state since col. 4 lines 6-17 of US '106 teach that the temperature of the surrounding liquid that cools the reaction products is maintained below the sintering temperature of the produced metal. It would have been obvious to one of ordinary skill in the art to optimize the amount of halide vapor through routine experimentation in order to control the reaction kinetics.

c. The claims of US 5,779,761 disclose that the reaction of a halide vapor and a liquid alkali or alkaline earth metal is exothermic and that the reaction products must be cooled. Therefore, it would have been obvious to one of ordinary skill in the art that the reaction products are cooled in the surrounding liquid which includes the halide vapor. It would have been obvious to one of ordinary skill in the art to optimize the amount of halide vapor through routine experimentation in order to control the reaction kinetics.

d. The amount of liquid phase of reducing metal is a result effective variable because the amount of liquid phase of reducing metal effects the completion of the reaction and the reaction kinetics (see col. 3 line56-col. 4 line 17). It would have been obvious to one of ordinary skill in the art to optimize the amount of liquid phase of reducing metal through routine experimentation in order to achieve the desired particle size or reaction rate. See MPEP 2144.05 II.



***Conclusion***

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **CAITLIN FOGARTY** whose telephone number is (571)270-3589. The examiner can normally be reached on **Monday - Friday 8:00 AM - 5:30 PM EST**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Roy King/  
Supervisory Patent Examiner, Art  
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CF